

Table 1. Birth Weight. Three Year Groupings, Utah, 1989-1997.

	1989-1991	1992-1994	1995-199
Total Live Births	107,678	112,443	124,554
Total Live Births with Birth Weight 2500 Grams or Over	101,414	105,900	116,446
Percentage of Live Births with Birth Weight 2500 Grams or Over	94.18%	94.18%	93.49%
Total Live Births with Birth Weight Under 2500 Grams	6,264	6,543	8,108
Percentage of Live Births with Birth Weight Under 2500 Grams	5.82%	5.82%	6.51%
Total Live Births with Birth Weight Under 1000 Grams	438	436	614
Percentage of Live Births with Birth Weight Under 1000 Grams	0.41%	0.39%	0.49%
Total Live Births with Birth Weight 1000-1499 Grams	506	521	653
Percentage of Live Births with Birth Weight 1000-1499 Grams	0.47%	0.46%	0.52%
Total Live Births with Birth Weight 1500-2499 Grams	5,320	5,586	6,841
Percentage of Live Births with Birth Weight 1500-2499 Grams	4.94%	4.97%	5.49%
Total Live Births with Birth Weight Under 2500 Grams and Preterm	3,681	3,928	5,391
Percentage of Live Births with Birth Weight Under 2500 Grams and Preterm	3.42%	3.49%	4.33%
Total Live Births with Birth Weight Under 2500 Grams and Term	2,544	2,585	2,713
Percentage of Live Births with Birth Weight Under 2500 Grams and Term	2.36%	2.30%	2.18%

Table 2. Infant Mortality per 1000 Live Births by Birth Weight. Three Year Groupings, Utah, 1989-1996.

Note: linked infant birth/death dataset only available through 1996.

	1989-1991	1992-1994	1995-1996
Total Live Births	107,678	112,443	81,570
Total Infant Deaths	760	661	481
Infant Mortality Rate	7.06	5.88	5.90
Total Live Births Under 2500 Grams	6,264	6,543	5,275
Total Infant Deaths	350	316	263
Infant Mortality Rate	55.87	48.30	49.86
Total Live Births Under 1500 Grams	944	957	830
Total Infant Deaths	229	215	180
Infant Mortality Rate	242.58	224.66	216.87
Total Live Births 1500-2499 Grams	5,320	5,586	4,445
Total Infant Deaths	121	101	83
Infant Mortality Rate	22.74	18.08	18.67
Total Live Births 2500 Grams or Over	101,414	105,900	76,295
Total Infant Deaths	410	345	218
Infant Mortality Rate	4.04	3.26	2.86

Table 3. Low Birth Weight

**Number of Low Weight Births (LBW), Live Births, and LBW Births Rate
By Area of Residence, Utah, 1994-96**

Area of Residence	# of Births*	# Low Birth Weight Births**	% Low Birth Weight Births***	95% Confidence Interval	
				Lower Limit	Upper Limit
0 State Total	119,611	7,510	6.3	6.1	6.4
1 Brigham City	1,028	64	6.2	4.9	7.9
2 Other Box Elder Co.	1,049	69	6.6	5.2	8.3
3 Logan	3,786	183	4.8	4.2	5.6
4 Other Cache/Rich Co.	1,956	116	5.9	4.9	7.1
5 Ben Lomond	2,236	153	6.8	5.8	8.0
6 Morgan/East Weber Co.	1,300	75	5.8	4.6	7.2
7 Downtown Ogden	2,025	187	9.2	8.0	10.6
8 South Ogden	1,947	153	7.9	6.7	9.2
9 Roy/Hooper	1,984	118	5.9	5.0	7.1
10 Riverdale	1,260	90	7.1	5.8	8.7
11 Clearfield/Hill AFB	2,635	159	6.0	5.2	7.0
12 Layton	3,344	222	6.6	5.8	7.5
13 Syracuse/Kaysville	1,654	94	5.7	4.6	6.9
14 Farmington/Centerville	1,260	79	6.3	5.0	7.8
15 Woods Cross/No SL	1,005	52	5.2	3.9	6.8
16 Bountiful	2,341	151	6.5	5.5	7.5
17 Rose Park	1,928	146	7.6	6.5	8.9
18 Avenues	1,124	88	7.8	6.4	9.6
19 Foothill/U of U	1,302	73	5.6	4.4	7.0
20 Magna	1,284	91	7.1	5.8	8.7
21 Glendale	1,708	143	8.4	7.1	9.8
22 West Valley West	3,579	252	7.0	6.2	7.9
23 West Valley East	2,663	180	6.8	5.8	7.8
24 Downtown Salt Lake	2,880	205	7.1	6.2	8.1
25 South Salt Lake	1,773	152	8.6	7.3	10.0
26 Millcreek	3,165	178	5.6	4.9	6.5
27 Holladay	2,026	133	6.6	5.5	7.8
28 Cottonwood	1,751	101	5.8	4.7	7.0
29 Kearns	3,789	278	7.3	6.5	8.2

30 Taylorsville	1,906	152	8.0	6.8	9.3
31 Murray	1,746	126	7.2	6.1	8.6
32 Midvale	1,800	121	6.7	5.6	8.0
33 West Jordan No.	2,733	168	6.1	5.3	7.1
34 W. Jordan, Copperton	1,957	126	6.4	5.4	7.6
35 South Jordan	928	45	4.8	3.6	6.5
36 Sandy Center	2,995	160	5.3	4.6	6.2
37 Sandy, NE	1,035	66	6.4	5.0	8.1
38 Sandy, SE	1,227	55	4.5	3.4	5.8
39 Riverton/Draper	2,155	137	6.4	5.4	7.5
40 Tooele Co.	1,633	124	7.6	6.4	9.0
41 Lehi/Cedar Valley	1,163	58	5.0	3.8	6.4
42 American Fork/Alpine	2,031	99	4.9	4.0	5.9
43 Pleasant Grove/Lindon	1,836	102	5.6	4.6	6.7
44 North Orem	3,451	185	5.4	4.6	6.2
45 West Orem	2,731	138	5.1	4.3	6.0
46 East Orem	17	1	5.9	0.3	30.8
47 Provo/BYU	2,851	147	5.2	4.4	6.0
48 Provo South	5,059	275	5.4	4.8	6.1
49 Springville/Spanish Fork	3,274	175	5.3	4.6	6.2
50 Utah Co. South	1,320	83	6.3	5.1	7.8
51 Summit Co.	1,049	81	7.7	6.2	9.5
52 Wasatch Co.	666	49	7.4	5.5	9.7
53 Tri-county LHD	1,984	148	7.5	6.4	8.7
54 Juab/Millard/Sanpete Co.	1,922	122	6.3	5.3	7.6
55 Sevier/Piute/Wayne Co.	1,017	74	7.3	5.8	9.1
56 Carbon/Emery Co.	1,376	99	7.2	5.9	8.7
57 Grand/San Juan Co.	1,170	72	6.2	4.9	7.7
58 St. George	2,325	91	3.9	3.2	4.8
59 Other Washington Co.	1,724	96	5.6	4.6	6.8
60 Cedar City	1,446	68	4.7	3.7	6.0
61 Other Southwest Dist.	1,020	52	5.1	3.9	6.7

* Three-year Total Number of Live Births

** Three-year Total Number of Births with birth weight under 2500 grams

*** Average annual Percent of Births with Birth weight under 2500 grams

SOURCE: Utah Birth Certificate Data, Utah Department of Health.

Table 4. Percentage of Infants with Low Birth Weight by Demographic, Behavioral, and Medical Risk Factors. Utah

Risk Factors	Number of Births¹	Percentage of Infants Under 2500 Grams	Number of Infants Under 2500 Grams	Percentage of Infants <1000 Grams	Number of Infants <1000 Grams	Percentage of Infants 1000-1499 Grams	Number of Infants 1000-1499 Grams	Percentage of Infants 1500-2499 Grams
Maternal Age								
17 and Under	12,482	9.30%	1,161	0.83%	104	0.85%	106	7.62%
18 to 19	23,897	8.27%	1,977	0.62%	149	0.73%	174	6.92%
20 to 34	277,531	5.73%	15,916	0.40%	1,097	0.44%	1,222	4.90%
35 or Over	30,574	6.02%	1,841	0.45%	137	0.57%	174	5.00%
Total	344,484	6.07%	20,895	0.43%	1,487	0.49%	1,677	5.15%
Maternal Race/Ethnicity								
Non-Hispanic White	302,231	5.88%	17,774	0.41%	1,248	0.46%	1,393	5.01%
Hispanic White	24,147	7.62%	1,839	0.60%	145	0.63%	152	6.39%
Black	2,218	11.63%	258	1.49%	33	1.13%	25	9.02%
American Indian	6,234	5.87%	366	0.40%	25	0.80%	50	4.67%
Asian/Pacific Islander	8,897	6.85%	609	0.33%	29	0.57%	51	5.95%
Total	343,727	6.06%	20,846	0.43%	1,480	0.49%	1,671	5.15%
Maternal Marital Status								
Married	292,430	5.48%	16,029	0.39%	1,138	0.43%	1,272	4.66%
Not Married	51,908	9.33%	4,844	0.67%	346	0.77%	399	7.90%
Total	344,338	6.06%	20,873	0.43%	1,484	0.49%	1,671	5.15%
Maternal Education Level								
Less than HS	50,130	9.27%	4,646	0.63%	315	0.74%	371	7.90%
HS Graduate	114,937	6.41%	7,372	0.43%	499	0.51%	589	5.47%
Some College	111,587	5.15%	5,750	0.36%	404	0.42%	465	4.37%
College Graduate	68,021	4.63%	3,147	0.40%	270	0.37%	255	3.85%
Total	344,675	6.07%	20,915	0.43%	1,488	0.49%	1,680	5.15%
Multiple Gestation								
Singleton Births	336,667	4.94%	16,638	0.34%	1,157	0.38%	1,273	4.22%
Multiple Births	8,001	53.44%	4,276	4.14%	331	5.09%	407	44.22%
Total	344,668	6.07%	20,914	0.43%	1,488	0.49%	1,680	5.15%
Parity								
1st Live Birth	123,690	6.68%	8,267	0.57%	701	0.54%	673	5.57%
2 to 4 Live Births	186,692	5.76%	10,762	0.34%	640	0.45%	831	4.98%
5 or More Live Births	32,481	5.24%	1,703	0.38%	123	0.48%	157	4.38%
Total	342,863	6.05%	20,732	0.43%	1,464	0.48%	1,661	5.14%

Prenatal Care									
No	1,230	20.65%	254	3.41%	42	2.60%	32	14.63%	
Yes	338,517	5.88%	19,913	0.39%	1,326	0.45%	1,538	5.04%	
Total	339,747	5.94%	20,167	0.40%	1,368	0.46%	1,570	5.07%	
Trimester That Prenatal Care was Initiated									
First	287,030	5.84%	16,754	0.42%	1,205	0.46%	1,327	4.95%	
Second	43,021	6.26%	2,694	0.27%	118	0.45%	192	5.54%	
Third	8,698	6.09%	530	0.16%	14	0.33%	29	5.60%	
Total	338,749	5.90%	19,978	0.39%	1,337	0.46%	1,548	5.05%	
Pre-Pregnancy Body Mass Index²									
Low (1.00-19.79)	67,140	8.17%	5,484	0.48%	324	0.59%	399	7.09%	
Normal (19.80-26.00)	165,779	5.48%	9,089	0.39%	643	0.42%	688	4.68%	
High (26.01-29.00)	29,753	5.09%	1,515	0.41%	122	0.44%	130	4.24%	
Obese (over 29.00)	36,585	5.69%	2,081	0.55%	203	0.56%	204	4.58%	
Total	299,257	6.07%	18,169	0.43%	1,292	0.47%	1,421	5.16%	
Gestation in Completed Weeks									
Less Than 27 Weeks	1,606	88.54%	1,422	70.67%	1,135	13.01%	209	4.86%	
28-35 Weeks	16,334	54.62%	8,922	1.84%	300	8.25%	1,347	44.54%	
36 Weeks	13,000	20.43%	2,656	0.05%	6	0.22%	28	20.17%	
37 or More Weeks	312,844	2.51%	7,842	0.01%	39	0.03%	87	2.47%	
Total	343,783	6.06%	20,842	0.43%	1,480	0.49%	1,671	5.15%	
Tobacco/Alcohol Use During Pregnancy									
Smoker and Drinker	3,485	15.06%	525	0.66%	23	1.26%	44	13.14%	
Smoker/ Non Drinker	30,321	12.17%	3,691	0.60%	181	0.88%	267	10.70%	
Drinker/ Non Smoker	2,670	6.85%	183	0.49%	13	0.56%	15	5.81%	
Non Smoker/Non Drinker	307,016	5.34%	16,386	0.41%	1,251	0.44%	1,344	4.49%	
Total	343,492	6.05%	20,785	0.43%	1,468	0.49%	1,670	5.14%	

¹Totals differ due to missing values on the grouping variable.

²Body mass index is calculated from the pre-pregnancy weight (pounds) and height (inches) of the individual and is expressed as BMI = 700*[weight / (height)**2]

Table 5. Percentage of Infants with Low Birth Weight by Demographic, Behavioral, and Medical Risk Factors. Three Year Intervals. Utah, 1989-1991, 1992-1994, 1995-1997.

Risk Factors	1989 to 1991			1992 to 1994			1995 to 1997	
	Number of Births ¹	Percent LBW	Total LBW	Number of Births ¹	Percent LBW	Total LBW	Number of Births ¹	Percent LBW
Maternal Age								
17 and Under	3,637	9.38%	341	4,303	9.02%	388	4,542	9.4%
18 to 19	7,464	8.17%	610	7,684	7.64%	587	8,749	8.3%
20 to 34	87,350	5.51%	4,815	90,178	5.50%	4,962	100,003	6.1%
35 and Over	9,154	5.34%	489	10,219	5.85%	598	11,201	6.7%
Total	107,605	5.81%	6,255	112,384	5.81%	6,535	124,495	6.4%
Maternal Race/Ethnicity								
Non-Hispanic White	96,193	5.63%	5,411	99,453	5.69%	5,654	106,585	6.2%
Hispanic White	5,925	8.10%	480	7,109	7.05%	501	11,113	7.7%
Black	610	13.77%	84	806	9.43%	76	802	12.1%
American Indian	2,294	5.10%	117	2,055	5.79%	119	1,885	6.9%
Asian/Pacific Islander	2,527	6.33%	160	2,866	6.39%	183	3,504	7.4%
Total	107,549	5.81%	6,252	112,289	5.82%	6,533	123,889	6.4%
Maternal Marital Status								
Married	93,039	5.31%	4,942	95,031	5.23%	4,968	104,360	5.8%
Not Married	14,502	9.00%	1,305	17,287	9.03%	1,561	20,119	9.8%
Total	107,541	5.81%	6,247	112,318	5.81%	6,529	124,479	6.4%
Maternal Education Level								
Less than HS	15,322	9.22%	1,413	16,157	9.18%	1,484	18,651	9.5%
HS Grad	38,029	6.11%	2,322	36,594	6.11%	2,237	40,314	6.9%
Some College	35,250	4.78%	1,686	37,597	4.91%	1,845	38,740	5.7%
College Graduate	19,077	4.42%	843	22,095	4.42%	977	26,849	4.9%
Total	107,678	5.82%	6,264	112,443	5.82%	6,543	124,554	6.4%
Prenatal Care								
No	344	19.19%	66	387	18.86%	73	499	23.1%
Yes	104,477	5.44%	5,684	111,049	5.72%	6,355	122,991	6.4%
Total	104,821	5.49%	5,750	111,436	5.77%	6,428	123,490	6.4%
Trimester That Prenatal Care was Initiated								
First	87,905	5.41%	4,758	95,338	5.73%	5,463	103,787	6.1%
Second	13,814	5.79%	800	13,393	5.86%	785	15,814	7.0%
Third	2,691	5.31%	143	2,474	5.58%	138	3,533	7.0%
Total	104,410	5.46%	5,701	111,205	5.74%	6,386	123,134	6.4%

Pre-Pregnancy Body Mass Index²								
Low (1.00-19.79)	17,637	8.03%	1,416	23,140	7.76%	1,795	26,363	8.6
Normal (19.80-26.00)	42,986	5.30%	2,279	55,739	5.19%	2,895	67,054	5.8
High (26.01-29.00)	7,922	5.01%	397	9,347	4.87%	455	12,484	5.3
Obese (over 29.00)	9,033	4.54%	410	11,636	5.29%	616	15,916	6.6
Total	77,578	5.80%	4,502	99,862	5.77%	5,761	121,817	6.4
Multiple Gestation								
Singleton Birth	105,173	4.74%	4,983	109,963	4.83%	5,306	121,531	5.2
Multiple Birth	2,501	51.18%	1,280	2,478	49.92%	1,237	3,022	58.6
Total	107,674	5.82%	6,263	112,441	5.82%	6,543	124,553	6.1
Parity								
1st Live Birth	36,174	6.20%	2,243	40,943	6.42%	2,627	46,573	7.2
2 to 4 Live Births	58,876	5.74%	3,379	60,502	5.48%	3,313	67,314	6.0
5 or More Live Births	11,536	4.60%	531	10,755	5.40%	581	10,190	5.8
Total	106,586	5.77%	6,153	112,200	5.81%	6,521	124,077	6.4
Gestation in Completed Weeks								
Less Than 27 Weeks	483	88.20%	426	500	82.40%	412	623	93.6
28-35 Weeks	4,922	51.32%	2,526	5,109	53.12%	2,714	6,303	58.6
36 Weeks	3,896	18.71%	729	4,120	19.47%	802	4,984	22.6
37 or More Weeks	97,967	2.60%	2,544	102,294	2.53%	2,585	112,582	2.4
Total	107,268	5.80%	6,225	112,023	5.81%	6,513	124,492	6.1
Tobacco/Alcohol Use During Pregnancy								
Smoker and Drinker	1,341	13.65%	183	1,165	15.45%	180	979	16.6
Smoker/Non Drinker	10,025	11.79%	1,182	9,883	11.81%	1,167	10,413	12.6
Drinker/Non Smoker	988	6.88%	68	812	7.02%	57	870	6.6
Non Smoker/Non Drinker	95,012	5.04%	4,793	100,155	5.09%	5,101	111,849	5.8
Total	107,366	5.80%	6,226	112,015	5.81%	6,505	124,111	6.4

¹Totals differ due to missing values on the grouping variable.

²Body mass index is calculated from the pre-pregnancy weight (pounds) and height (inches) of the individual and is expressed as BMI = 700*[weight / (height)**2]

Table 6. Percentage of Low Birth Weight Births by Previous History of Birth Weight, Utah, 1989-1996

Birth Weight Status of the Previous Birth	Risk of Birth2= Low Birth Weight	Risk of Birth3= Low Birth Weight	Risk of Birth4= Low Birth Weight	Risk of Birth5= Low Birth Weight
Birth1=Low Birth Weight	37.63% 1871/4972	21.31% 283/1328	22.87% 59/258	9.68% 48/496
Birth1=Normal Birth Weight	4.37% 3300/75520	6.08% 1225/20143	7.83% 277/3539	14.58% 7/48
Birth2=Low Birth Weight		39.53% 655/1657	26.11% 88/337	18.46% 12/65
Birth2=Normal Birth Weight		4.31% 853/19814	7.17% 248/3460	8.98% 43/479
Birth3=Low Birth Weight			44.12% 165/374	22.03% 13/59
Birth3=Normal Birth Weight			5.00% 171/3426	8.68% 42/485
Birth4=Low Birth Weight				36.92% 24/65
Birth4=Normal Birth Weight				6.47% 31/479

*Birth1, birth2, etc. refer to first, second, etc. birth during the study period only.

Technical Note on Methodology for Data Analysis:

A linked data set of sibling births that occurred between 1989-1996 was created from the Utah Vital Records birth data file. Probabilistic record linkage technique (using Automatch software) was used to link birth records for siblings born between January 1, 1989 and December 31, 1996. The record matching was accomplished based on parents' attributes listed on each birth record, including mother's maiden name, mother's last name, mother's first name, mother's date of birth, father's name, mother's race, father's race, and parents' street address. Of the 311,189 births that occurred during these years, 186,894 could be matched with at least one other birth during this time period yielding 80,502 matched sets of records. For this table, only those 80,502 matched sets of records were analyzed to determine the risk of having a low birth weight infant based on birth weight of previous births to the same mother.

Table 7a. Percentage of Infants by Risk Factor: Preterm LBW, Preterm SGA. Utah, 1989-1997.

Risk Factors			Percent Preterm for Number of Births	Number of Preterm Infants	Percent of Total Preterm Infants	Percent Preterm/LBW for Number of Births	Number of Infants Preterm and LBW	Percent Total Preterm Infants
			Number of Births ¹	Percent of Total Births				
Maternal Age								
	17 and Under	12,242	3.60%	12.35%	1,512	5.23%	5.87%	719
	18 to 19	23,463	6.90%	10.53%	2,471	8.55%	5.11%	1,199
	20 to 34	273,840	80.59%	8.09%	22,167	76.69%	3.52%	9,636
	35 or Over	30,254	8.90%	9.10%	2,754	9.53%	3.83%	1,160
	Total	339,799	100.00%	8.51%	28,904	100.00%	3.74%	12,714
Maternal Race/Ethnicity								
	Non-Hispanic White	298,302	87.98%	8.17%	24,364	84.54%	3.64%	10,858
	Hispanic White	23,728	7.00%	10.76%	2,554	8.86%	4.62%	1,097
	Black	2,172	0.64%	14.36%	312	1.08%	7.32%	159
	American Indian	6,061	1.79%	11.81%	716	2.48%	3.66%	222
	Asian/Pacific Islander	8,784	2.59%	9.96%	875	3.04%	3.90%	343
	Total	339,047	100.00%	8.50%	28,821	100.00%	3.74%	12,679
Maternal Marital Status								
	Married	288,789	85.02%	7.93%	22,914	79.34%	3.41%	9,848
	Not Married	50,877	14.98%	11.73%	5,967	20.66%	5.61%	2,852
	Total	339,666	100.00%	8.50%	28,881	100.00%	3.74%	12,700
Maternal Education Level								
	Less than HS	49,062	14.43%	11.59%	5,684	19.65%	5.39%	2,646
	HS Graduate	113,283	33.32%	8.89%	10,073	34.82%	3.90%	4,420
	Some College	110,238	32.42%	7.70%	8,490	29.35%	3.27%	3,603
	College Graduate	67,402	19.82%	6.94%	4,679	16.18%	3.05%	2,058
	Total	339,985	100.00%	8.51%	28,926	100.00%	3.74%	12,727
Multiple Gestation								
	Singleton Births	332,035	97.66%	7.41%	24,603	85.06%	2.86%	9,492
	Multiple Births	7,945	2.34%	54.40%	4,322	14.94%	40.70%	3,234
	Total	339,980	100.00%	8.51%	28,925	100.00%	3.74%	12,726

Parity									
1st Live Birth	121,980	36.06%	8.55%	10,427	36.35%	4.08%	4,980	39.1%	
2 to 4 Live Births	184,218	54.46%	8.41%	15,489	54.00%	3.54%	6,530	51.1%	
5 or More Live Births	32,040	9.47%	8.64%	2,768	9.65%	3.40%	1,089	8.6%	
Total	338,238	100.00%	8.48%	28,684	100.00%	3.72%	12,599	100.0%	
Prenatal Care									
No	1,154	0.34%	28.34%	327	1.17%	16.03%	185	1.1%	
Yes	334,060	99.66%	8.28%	27,671	98.83%	3.58%	11,975	98.4%	
Total	335,214	100.00%	8.35%	27,998	100.00%	3.63%	12,160	100.0%	
Trimester That Prenatal Care was Initiated									
First	283,863	84.91%	8.18%	23,207	83.65%	3.61%	10,253	85.1%	
Second	41,964	12.55%	8.95%	3,756	13.54%	3.62%	1,520	12.6%	
Third	8,478	2.54%	9.19%	779	2.81%	2.95%	250	2.0%	
Total	334,305	100.00%	8.30%	27,742	100.00%	3.60%	12,023	100.0%	
Pre-Pregnancy Body Mass Index²									
Low (1.00-19.79)	66,337	22.45%	9.65%	6,400	25.62%	4.76%	3,159	28.1%	
Normal (19.80-26.00)	163,891	55.46%	7.96%	13,051	52.24%	3.43%	5,629	50.1%	
High (26.01-29.00)	29,321	9.92%	7.85%	2,303	9.22%	3.27%	960	8.6%	
Obese (over 29.00)	35,949	12.17%	8.98%	3,227	12.92%	3.85%	1,384	12.4%	
Total	295,498	100.00%	8.45%	24,981	100.00%	3.77%	11,132	100.0%	
Gestation in Completed Weeks									
Less Than 27 Weeks	1,461	0.43%	100.00%	1,461	0.43%	95.55%	1,396	10.1%	
28-35 Weeks	15,484	4.55%	100.00%	15,484	4.55%	56.05%	8,679	68.1%	
36 Weeks	11,981	3.52%	100.00%	11,981	3.52%	22.14%	2,652	20.1%	
37 or More Weeks	311,059	91.49%	0.00%	311,059	91.49%	.	.		
Total	339,985	100.00%	100.00%	339,985	100.00%	3.74%	12,727	100.0%	
Tobacco/Alcohol Use During Pregnancy									
Smoker and Drinker	3,402	1.00%	11.29%	384	1.33%	6.85%	233	1.1%	
Smoker/ Non Drinker	29,662	8.75%	11.99%	3,555	12.35%	6.45%	1,912	15.1%	
Drinker/ Non Smoker	2,634	0.78%	9.76%	257	0.89%	4.75%	125	0.9%	
Non Smoker/Non Drinker	303,147	89.46%	8.11%	24,578	85.42%	3.42%	10,368	82.0%	
Total	338,845	100.00%	8.49%	28,774	100.00%	3.73%	12,638	100.0%	

¹Totals differ due to missing values on the grouping variable.

²Body mass index is calculated from the pre-pregnancy weight (pounds) and height (inches) of the individual and is expressed as BMI = 700*[weight / (height)**2]

Table 7b. Percentage of Infants by Risk Factor: Preterm AGA, or Term LBW, Utah, 1989-1997.

					Number			Number			
	Percentage	Number	Percent	Percentage	of	Percent	Percentage	of	Percent		
	of Infants	of Infants	of Total	of Infants	Infants	Total	of Infants	Infants	of Total		
	Preterm	Preterm	Preterm	Preterm	Preterm	Preterm	Preterm	Preterm	Preterm		
	AGA and	AGA and	AGA	AGA and	AGA	AGA	AGA and	AGA	AGA		
	and SGA	and SGA	SGA	LBW	LBW	LBW	NLBW	NLBW	NLBW	Percentage o	
Risk Factors	and SGA	and SGA	SGA	LBW	LBW	LBW	NLBW	NLBW	NLBW	Percentage of Infants	Term and
										LBW	
Maternal Age											
17 and Under	1.46%	179	4.48%	4.27%	523	6.11%	5.60%	685	4.88%	3.46%	
18 to 19	1.57%	368	9.21%	3.47%	814	9.51%	4.67%	1,095	7.80%	3.22%	
20 to 34	1.11%	3,047	76.23%	2.37%	6,478	75.71%	3.98%	10,904	77.69%	2.24%	
35 or Over	1.33%	403	10.08%	2.45%	741	8.66%	4.47%	1,352	9.63%	2.21%	
Total	1.18%	3,997	100.00%	2.52%	8,556	100.00%	4.13%	14,036	100.00%	2.35%	
Maternal Race/Ethnicity											
Non-Hispanic White	1.14%	3,412	85.69%	2.46%	7,331	85.84%	3.97%	11,842	84.54%	2.26%	
Hispanic White	1.42%	337	8.46%	3.11%	739	8.65%	5.15%	1,223	8.73%	3.05%	
Black	2.49%	54	1.36%	4.65%	101	1.18%	6.08%	132	0.94%	4.37%	
American Indian	1.22%	74	1.86%	2.28%	138	1.62%	5.92%	359	2.56%	2.23%	
Asian/Pacific Islander	1.20%	105	2.64%	2.63%	231	2.70%	5.13%	451	3.22%	2.98%	
Total	1.17%	3,982	100.00%	2.52%	8,540	100.00%	4.13%	14,007	100.00%	2.35%	
Maternal Marital Status											
Married	1.07%	3,086	77.32%	2.31%	6,660	77.90%	3.94%	11,383	81.16%	2.09%	
Not Married	1.78%	905	22.68%	3.71%	1,889	22.10%	5.19%	2,642	18.84%	3.78%	
Total	1.17%	3,991	100.00%	2.52%	8,549	100.00%	4.13%	14,025	100.00%	2.35%	
Maternal Education Level											
Less than HS	1.70%	836	20.91%	3.59%	1,761	20.56%	5.30%	2,600	18.52%	3.94%	
HS Graduate	1.24%	1,408	35.21%	2.61%	2,957	34.52%	4.31%	4,888	34.81%	2.55%	
Some College	1.00%	1,104	27.61%	2.23%	2,459	28.70%	3.84%	4,234	30.15%	1.90%	
College Gaduate	0.97%	651	16.28%	2.06%	1,390	16.23%	3.44%	2,320	16.52%	1.58%	
Total	1.18%	3,999	100.00%	2.52%	8,567	100.00%	4.13%	14,042	100.00%	2.35%	
Multiple Gestation											
Singleton Births	0.84%	2,802	70.07%	1.97%	6,549	76.45%	3.91%	12,970	92.37%	2.10%	
Multiple Births	15.07%	1,197	29.93%	25.39%	2,017	23.55%	13.49%	1,072	7.63%	12.79%	
Total	1.18%	3,999	100.00%	2.52%	8,566	100.00%	4.13%	14,042	100.00%	2.35%	

Parity											
1st Live Birth	1.26%	1,532	38.66%	2.78%	3,388	39.96%	3.94%	4,806	34.46%	2.63%	
2 to 4 Live Births	1.12%	2,068	52.18%	2.38%	4,381	51.67%	4.21%	7,751	55.57%	2.24%	
5 or More Live Births	1.13%	363	9.16%	2.22%	710	8.37%	4.34%	1,390	9.97%	1.87%	
Total	1.17%	3,963	100.00%	2.51%	8,479	100.00%	4.12%	13,947	100.00%	2.34%	
Prenatal Care											
No	3.64%	42	1.09%	11.01%	127	1.56%	10.23%	118	0.86%	5.63%	
Yes	1.14%	3,801	98.91%	2.41%	8,037	98.44%	4.07%	13,605	99.14%	2.32%	
Total	1.15%	3,843	100.00%	2.44%	8,164	100.00%	4.09%	13,723	100.00%	2.33%	
Trimester That Prenatal Care was Initiated											
First	1.15%	3,270	85.38%	2.42%	6,875	85.37%	4.00%	11,347	83.26%	2.25%	
Second	1.13%	473	12.35%	2.43%	1,020	12.67%	4.41%	1,849	13.57%	2.68%	
Third	1.03%	87	2.27%	1.86%	158	1.96%	5.11%	433	3.18%	3.18%	
Total	1.15%	3,830	100.00%	2.41%	8,053	100.00%	4.08%	13,629	100.00%	2.32%	
Pre-Pregnancy Body Mass Index¹											
Low (1.00-19.79)	1.53%	1,018	29.32%	3.17%	2,103	27.94%	4.43%	2,942	24.37%	3.43%	
Normal (19.80-26.00)	1.03%	1,687	48.59%	2.37%	3,879	51.53%	3.95%	6,479	53.67%	2.06%	
High 26.01-29.00)	1.03%	301	8.67%	2.20%	646	8.58%	3.95%	1,158	9.59%	1.85%	
Obese (over 29.00)	1.30%	466	13.42%	2.50%	899	11.94%	4.15%	1,493	12.37%	1.91%	
Total	1.17%	3,472	100.00%	2.55%	7,527	100.00%	4.09%	12,072	100.00%	2.33%	
Gestation in Completed Weeks											
Less Than 27 Weeks	10.20%	149	3.73%	75.22%	1,099	12.83%	.	.	.	.
28-35 Weeks	14.02%	2,171	54.29%	41.95%	6,495	75.81%	35.42%	5,484	39.05%	.	
36 Weeks	14.01%	1,679	41.99%	8.12%	973	11.36%	71.43%	8,558	60.95%	.	
37 or More Weeks	.	.	.	.	.	.	.	.	.	2.57%	
Total	1.18%	3,999	100.00%	2.52%	8,567	100.00%	4.13%	14,042	100.00%	2.35%	
Tobacco/Alcohol Use During Pregnancy											
Smoker and Drinker	2.32%	79	1.99%	4.41%	150	1.76%	3.82%	130	0.93%	8.26%	
Smoker/Non Drinker	2.31%	684	17.21%	4.04%	1,199	14.09%	5.04%	1,494	10.68%	5.84%	
Drinker/Non Smoker	1.33%	35	0.88%	3.38%	89	1.05%	4.25%	112	0.80%	2.09%	
Non Smoker/Non Drinker	1.05%	3,176	79.92%	2.33%	7,070	83.10%	4.04%	12,250	87.59%	1.94%	
Total	1.17%	3,974	100.00%	2.51%	8,508	100.00%	4.13%	13,986	100.00%	2.34%	

¹Bodymass index is calculated from the pre-pregnancy weight (pounds) and height (inches) of the individual and is expressed as BMI = 700*[weight/(height)**2]

Table 8. Parameter Estimates and Odds Ratios from Logistic Regression Analysis of Low Birth Weight Babies by Demographic, Behavioral, and Medical Risk Factors. Utah, 1989-1997.

Risk Factors	Parameter Estimate	Odds Ratio for Low Birth Weight	95% Lower C.I.	95% Upper C.I.
Marriage/Age				
Married and 17 or Under	0.1302*	1.14	1.01	1.29
Married and 18 to 19	0.1236**	1.13	1.05	1.22
Married and 35 or Over	0.2312***	1.26	1.19	1.34
Unmarried and 17 or Under	0.056	1.06	0.97	1.15
Unmarried and 18 to 19	0.1368**	1.15	1.06	1.24
Unmarried and 20 to 34	0.2126***	1.24	1.18	1.30
Unmarried and 35 or Over	0.7339***	2.08	1.80	2.42
Married and 20 to 34	.	1.00	.	.
Maternal Race/Ethnicity				
Hispanic White	0.1951***	1.22	1.15	1.29
Black	0.5216***	1.69	1.46	1.94
American Indian	-0.005	0.99	0.89	1.11
Asian/Pacific Islander	0.2446***	1.28	1.17	1.40
Non-Hispanic White	.	1.00	.	.
Maternal Education Level				
Less than High School	.2055***	1.23	1.17	1.29
Some College	-0.1292***	0.88	0.85	0.91
College Graduate	-0.2881***	0.75	0.71	0.79
High School Graduate	.	1.00	.	.
Trimester Care				
No Prenatal Care	1.197***	3.31	2.85	3.84
Care in 2nd or 3rd Trimester	-0.1154***	0.89	0.85	0.93
Care in 1st Trimester	.	1.00	.	.

Parity					
2 to 4 births	-0.3029***	0.74	0.71	0.76	
5 or more births	-0.4877***	0.61	0.58	0.66	
1st birth	.	1.00	.	.	
Multiple Gestation					
Multiple	3.31***	27.41	26.10	28.77	
Singleton	.	1.00	.	.	
Pre-Pregnancy Body Mass Index¹					
Low (1.00-19.79)	0.3936***	1.48	1.43	1.54	
High (26.01 and over)	-0.0499*	0.95	0.91	0.99	
Normal (19.80-26.00)	.	1.00	.	.	
Tobacco/Alcohol					
Smoker and Drinker	1.0298***	2.80	2.53	3.10	
Smoker/ Non Drinker	0.7827***	2.19	2.09	2.29	
Drinker/Non Smoker	0.2983**	1.35	1.15	1.58	
Non Smoker/Non Drinker	.	1.00	.	.	

Statistical significance at *P<.05; **P<.01; ***P<.001

¹Body mass index is calculated from the pre-pregnancy weight (pounds) and height (inches) of the individual and is expressed as $BMI = 700 * [weight / (height)^2]$

This table illustrates the odds of giving birth to a low birth weight infant according to demographic, behavioral, or medical risk factors. Note that an odds ratio of 1.000 is associated with a “reference group” and demonstrates no greater or less risk of low birth weight.

Table 9. Parameter Estimates and Odds Ratios from Logistic Regression Analysis of Full Term Low Birth Weight Babies by Demographic, Behavioral, and Medical Risk Factors. Utah, 1989-1997.

Risk Factors	Parameter Estimate	Odds Ratio for Low Birth Weight	95% Lower C.I.	95% Upper C.I.
Marriage/Age				
Married and 17 or Under	-0.153	0.86	0.70	1.05
Married and 18 to 19	-0.021	0.98	0.87	1.10
Married and 35 or Over	.1736***	1.19	1.08	1.31
Unmarried and 17 or Under	-0.1755*	0.84	0.73	0.96
Unmarried and 18 to 19	-0.045	0.96	0.85	1.07
Unmarried and 20 to 34	.1160**	1.12	1.04	1.21
Unmarried and 35 or Over	.7236***	2.06	1.68	2.54
Married and 20 to 34	.	1.00	.	.
Maternal Race/Ethnicity				
Hispanic White	0.2169***	1.24	1.14	1.35
Black	0.4883***	1.63	1.32	2.01
American Indian	-0.014	0.99	0.83	1.17
Asian/Pacific Islander	0.3428***	1.41	1.24	1.60
Non-Hispanic White	.	1.00	.	.
Maternal Education Level				
Less than High School	.2409***	1.27	1.19	1.36
Some College	-0.1599***	0.85	0.80	0.90
College Graduate	-0.3715***	0.69	0.64	0.74
High School Graduate	.	1.00	.	.
Trimester Care				
No Prenatal Care	.7072***	2.03	1.56	2.63
Care in 2nd or 3rd Trimester	0.001	1.00	0.94	1.06
Care in 1st Trimester	.	1.00	.	.

Parity				
2 to 4 births	-0.2763***	0.76	0.72	0.80
5 or more births	-0.4982***	0.61	0.55	0.67
1st birth	.	1.00	.	.
Multiple Gestation				
Multiple	2.76***	15.80	14.64	17.05
Singleton	.	1.00	.	.
Pre-Pregnancy Body Mass Index¹				
Low (1.00-19.79)	0.4623***	1.59	1.51	1.67
High (26.01 and over)	-0.1622*	0.85	0.80	0.91
Normal (19.80-26.00)	.	1.00	.	.
Tobacco/Alcohol				
Smoker and Drinker	1.3907***	4.02	3.53	4.58
Smoker/ Non Drinker	1.004***	2.73	2.56	2.91
Drinker/Non Smoker	0.058	1.06	0.81	1.39
Non Smoker/Non Drinker	.	1.00	.	.

Statistical significance at *P<.05; **P<.01; ***P<.001

¹Body mass index is calculated from the pre-pregnancy weight (pounds) and height (inches) of the individual and is expressed as $BMI = 700 * [weight / (height)^2]$

This table illustrates the odds of giving birth to a low birth weight infant according to demographic, behavioral, or medical risk factors. Note that an odds ratio of 1.000 is associated with a “reference group” and demonstrates no greater or less risk of low birth weight.

Table 10. Parameter Estimates and Odds Ratios from Logistic Regression Analysis of Preterm Low Birth Weight Babies by Demographic, Behavioral, and Medical Risk Factors. Utah, 1989-1997.

Risk Factors	Parameter Estimate	Odds Ratio for Low Birth Weight	95% Lower C.I.	95% Upper C.I.
Marriage/Age				
Married and 17 or Under	0.3266***	1.39	1.87	1.62
Married and 18 to 19	0.2259***	1.25	1.14	1.39
Married and 35 or Over	0.2606***	1.30	1.20	1.40
Unmarried and 17 or Under	0.2242***	1.25	1.12	1.40
Unmarried and 18 to 19	0.2699***	1.31	1.19	1.44
Unmarried and 20 to 34	0.2822***	1.33	1.24	1.42
Unmarried and 35 or Over	0.7195***	2.05	1.69	2.50
Married and 20 to 34	.	1.00	.	.
Maternal Race/Ethnicity				
Hispanic White	0.1824***	1.20	1.12	1.29
Black	0.5207***	1.68	1.41	2.01
American Indian	-0.009	0.99	0.86	1.14
Asian/Pacific Islander	0.1620**	1.18	1.05	1.32
Non-Hispanic White	.	1.00	.	.
Maternal Education Level				
Less than High School	.1735***	1.19	1.12	1.26
Some College	-0.1049***	0.90	0.86	0.95
College Graduate	-0.2291***	0.80	0.75	0.85
High School Graduate	.	1.00	.	.
Trimester Care				
No Prenatal Care	1.455***	4.29	3.62	5.08
Care in 2nd or 3rd Trimester	-0.2037***	0.82	0.77	0.86
Care in 1st Trimester	.	1.00	.	.

Parity					
2 to 4 births	-0.3162***	0.73	0.70	0.76	
5 or more births	-0.4886***	0.61	0.57	0.67	
1st birth	.	1.00	.	.	
Multiple Gestation					
Multiple	3.57***	35.65	33.78	37.62	
Singleton	.	1.00	.	.	
Pre-Pregnancy Body Mass Index¹					
Low (1.00-19.79)	0.3556***	1.43	1.36	1.49	
High (26.01 and over)	-0.018	1.02	0.97	1.07	
Normal (19.80-26.00)	.	1.00	.	.	
Tobacco/Alcohol					
Smoker and Drinker	.6846***	1.98	1.72	2.29	
Smoker/ Non Drinker	.5921***	1.81	1.70	1.92	
Drinker/Non Smoker	.4179***	1.52	1.26	1.84	
Non Smoker/Non Drinker	.	1.00	.	.	

Statistical significance at *P<.05; **P<.01; ***P<.001

¹Body mass index is calculated from the pre-pregnancy weight (pounds) and height (inches) of the individual and is expressed as $BMI = 700 * [weight / (height)^2]$

This table illustrates the odds of giving birth to a low birth weight infant according to demographic, behavioral, or medical risk factors. Note that an odds ratio of 1.000 is associated with a “reference group” and demonstrates no greater or less risk of low birth weight.

Table 11. Low Birth Weight by Age After Adjusting for Marital Status

Odds Ratios are relative to the group "Married, 20-34 years old"

Married	Percent LBW	Odds Ratio
17 and under	8.94%	1.75
18 to 19	7.57%	1.46
20 to 34	5.31%	1
35 and over	5.57%	1.05
Unmarried		
17 and under	9.45%	1.86
18 to 19	9.05%	1.77
20 to 34	9.18%	1.8
35 and over	12.79%	2.61

This table illustrates the odds of giving birth to a low birth weight infant according to demographic, behavioral, or medical risk factors. Note that an odds ratio of 1.000 is associated with a “reference group” and demonstrates no greater or less risk of low birth weight. In this analysis the reference group consists of women who are 20-34 years of age, are high school graduates, are married, are non-hispanic white, etc.